

Abstract

Correlation between hs-CRP level and severity of disease in stable COPD patients

Background: C- reactive protein is often used as a clinical marker of acute systemic inflammation. Since low grade inflammation is evident in chronic diseases such as chronic obstructive pulmonary disease (COPD), the aim of this study was to determine the relationship between hs- CRP levels and the severity of COPD disease in stable COPD patients.

Method : Cross sectional study was carried out through 60 stable COPD patients who came to pulmonology clinic in Ardabil's Iama Khomeini Hospital and 15 healthy control . Hs- CRP levels were measured in two groups .spirometry , saturation of arteriol oxygen, dyspnea (MMRC), 6 Min walk distance (6 MWD) , body Mass index, BODE(BMI, Obstruction, Dyspnea, Exercise toleranc) smoking status, Corticosteroid use and number of exacerbations in the previous year were determined in these patients . Then, the CAT questionnaire was completed by all patients with COPD.

Results: hs- CRP levels were higher in COPD patients than in controls (4.6 versus 1.96 mg /L). Correlation was found between hs-CRP with BODE index ($P= 0.008$) ($r= 0.29$) and between hs-CRP with MMRC ($r= 0.34$) ($P= 0.02$). The strongest negative association was found between hs- CRP with 6 MWD $p= 0.021$ $r= - 0.29$.

There was no correlation between hs- CRP and BMI, Smoking status, volume of expiration in first second (FEV1 %), SpO₂ and CAT- score.

High sensitivly CRP is a marker of inflammation that raised in stable COPD patient and can be used as a predictor factor for severity of inflammation in COPD patients.

In this study there was significant correlation between BODE index and hs- CRP ($P= 0.008$) .

The BODE index as simple multi dimensional grading system shows influences of inflammation (hs- CRP) on different organs of body.

Conclusion: BODE index can be used as suitable evaluation criteria for severity of COPD.

Keyword: hs- CRP, CAT, MMRC, BODE, GOLD.